HZ/RCRA

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

November 7, 2001

Mr. Ed Honig
Union Pacific Railroad Company
Room 930
1416 Dodge Street
Omaha, NE 68179

Re: Union Pacific Railroad Company's July 5, 2001 responses to TNRCC's November 6, 2000 comments on the Affected Property Assessment Report, Houston Wood Preserving Works, dated July 10, 2000
Industrial Solid Waste Registration No. 31547
EPA ID No. TXD000820266

Dear Mr. Honig:

The Texas Natural Resource Conservation Commission (TNRCC) has reviewed the above referenced response letter. Based on our review, the TNRCC identified the following concerns:

1. Union Pacific Railroad Company's (UPRC's) Response to TNRCC's Comment 1 - TNRCC's October 16, 1995 letter documents that all of the areas of concern (AOCs) identified in Provision VIII of the Hazardous Waste Permit HW-50343 are subject to the RCRA Facility Investigation (RFI). Therefore, please insure that the Affected Property Assessment Report (APAR) for the facility specifically demonstrates that each RFI AOC has been assessed in accordance with the Texas Risk Reduction Program (TRRP) Rule and applicable guidance.

2. UPRC's Response to TNRCC's Comment 3 - The historical wastewater releases to the City Storm Sewer (AOC 5) may have contained metals in addition to or instead of the organic hazardous constituents identified in Table I of the Compliance Plan. Therefore, please insure that each RFI solid waste management unit (SWMU) and AOC are assessed for all chemicals of potential concern.

3. UPRC's Response to TNRCC's Comments 4 and 7- In accordance with the TRRP Rule, please insure that the APAR clearly documents, that each RFI SWMU and AOC has been adequately assessed to: a) quantitatively determine whether chemicals of concern (COCs) have been released into environmental media; and if so, b) quantitatively delineate the COCs present in the environmental media from the release/source area outward to where the concentrations of COCs are equal to or less than assessment levels applicable for residential land use and groundwater classification.

HZ/RC/TE

UNION PACIFIC RAILROAD COMPANY

ENVIRONMENTAL MANAGEMENT

R. M. (Bob) Grimaila
Assistant Vice President-Environmental
(402) 271-4344

L. A. (Lanny) Schmid
Director Environmental Field Operations
(402) 271-2262

J. R. (Joel) Strafelda
Program Manager-Site Remediation
(402) 271-6572

Mailing Address
Room 930
1416 Dodge Street
Omaha, NE 68179
Fax: (402) 271-4461

R. L. (Rick) Eades
Director Environmental Field Ops-North
(402) 661-6825

G. (Glenn) Thomas
Director Environmental Field Ops-South
(281) 350-7542

B. A. (Brock) Nelson
Director Environmental Field Ops-West
(916) 789-6370

July 05, 2001

Rec'd
JUL 11 2001

Mr. Mark Arthur, Project Manger
Team I, Corrective Action Section
Remediation Division (MC-127)
Texas Natural Resource Conservation Commission
P.O. Box 13087
Austin, Texas 78711-3087

ISWR #

Subject: Transmittal, Responses to TNRCC's November 6, 2000 comments on an Affected Property Assessment Report; Houston Wood Preserving Works Site; TNRCC Solid Waste Registration No. 31547; EPA ID No. TX000820266

vol. 1
31547

Dear Mr. Arthur:

Attached is are responses to the TNRCC's November 6, 2000 com
concerning an Affected Property Assessment Report (APAR) subr
Former Houston Wood Preserving Works (HWPW) on-site proper
Pacific Railroad (UPRR) would like to restate that the APAR subr
TNRCC was prepared using on-site data only and that it is still U
prepare and submit a second APAR for off-site areas following the
on-going RFI/EOC investigations. Therefore, the attached responses are based on supporting the APAR requirements for the HWPW on-site property only.

For ease of presentation and clarity, each TNRCC comment is presented in italics, followed by UPRR's response. Pursuant to previously submitted schedule, submittal of the Revised On-Site APAR will follow under separate cover by July 6, 2001.

If you have further questions or comments regarding the enclosed response, please do not hesitate to call me at (402) 271-5979.

Sincerely,
Union Pacific Railroad

E. H. (Ed) Honig, P.E.
Manager, Environmental Site Remediation

EHH/BZ454422-F01

cc: Ms. Marsha Hill, TNRCC Region 12 - Houston
Mr. David Neleigh, US EPA Region 6 - Dallas

ATTACHMENT 1

Responses to TNRCC's Comments dated November 6, 2000

On-Site Affected Property Assessment Report
Former Houston Wood Preserving Works
Union Pacific Railroad
Houston, Texas

Responses to TNRCC's Comments dated November 6, 2000

TNRCC Comment 1:

Section 3.0 - Revise the section (text and figures) to include an evaluation of all the RFI Areas of Concern as identified in Provision VIII of the RCRA Permit.

UPRR Response:

Figure 3-1 will be revised to identify the six Area of Concern (AOCs) identified in Provision VIII of the RCRA Permit. In accordance with a letter from the TNRCC dated October 16, 1995, four of the six AOCs will be denoted as "not within the scope of the investigation." In addition, the APAR text will be modified to clarify the investigation status of these AOCs. The following text will be added to Section 3.1 of the APAR.

The RCRA Facility Investigation (RFI) Work Plan submitted to the TNRCC on October 14, 1994 by Industrial Compliance (IC), and approved by the TNRCC with revisions on October 16, 1995 clarifies that AOC-3 (contaminated portion of city water line), AOC-4 (location of former incinerator), AOC-5 (city storm sewer) and AOC-7 (location of former UST No. 44-023-21) are not within the scope of the investigation. Therefore, only AOC-1 (diesel storage tank) and AOC-6 (inactive wastewater lagoon) are within the scope of the RFI. Subsequent RFI and Extent of Contamination (EOC) reports have addressed only AOC-1 and AOC-6. As such the Revised On-Site APAR will also address only these two AOCs.

TNRCC Comment 2:

Section 3.1 and Figures 3-1 and 3-2 - If the southern drainage ditch portion of SWMU 2 has been incorporated into Investigation Area 2, as indicated on Figure 3-2, please revise the APAR to incorporate the assessment for this area.

UPRR Response:

The On-Site APAR has been revised to clarify that the southern drainage ditch portion of SWMU 2 is not evaluated as part of Investigation Area 2. As such, the available assessment data from this area will be included and evaluated in the pending Off-Site APAR.

TNRCC Comment 3:

Section 3.4, p. 12 - Explain how copper, chromium, arsenic, and other metals were determined not to be constituents of potential concern.

UPRR Response:

The constituents analyzed for in media of concern are the constituents of interest (COIs) that were identified in the Compliance Plan issued by the TNRCC (No. CP-50343) and the TNRCC-approved RFI Work Plan. This COI list was based primarily on the historical usage of the property as a creosote wood treating facility. The Compliance Plan Provision VI requires that polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), phenols, phthalates and other semivolatiles be considered as the constituents of potential concern for the property. Metals were not identified as COIs and, therefore, were not assessed in media of concern.

TNRCC Comment 4:

Section 5.0, 6.0, and 7.0 - Revise the applicable text, tables, and figures in the sections to demonstrate that the constituents in groundwater which exceed their residential assessment levels have been characterized horizontally in all directions.

UPRR Response:

UPRR acknowledges TNRCC's request for a demonstration that constituents in ground water have been delineated to residential assessment levels. However, the On-Site APAR was prepared using on-site data only in part, to facilitate the corrective action process in order to achieve EPA's goal of plume control at high-priority RCRA sites. Whereas UPRR intends to complete ground water delineation of residential PCLs off site, corrective action planning on site will be based on industrial use of the property consistent with EPA's (Region 6) Risk Management Strategy. Therefore, the PCLE Zones shown in Figures 7-1, 7-2, and 7-3 were developed using commercial/industrial PCLs for on-site exposure scenarios. Recently completed investigation activities were designed to delineate the lateral extent of affected ground water to residential PCLs off site. Pending completion of these investigation activities, an Off-Site APAR will be submitted under a separate cover.

Note that the Revised On-Site APAR will include additional text to clarify UPRR's approach to this issue. When submitted, the Off-Site APAR will present both the commercial/industrial and residential PCLE Zones (as applicable).

TNRCC Comment 5:

Table 5-1 to 5-3 - According to the tables, protective concentration levels for several constituents were not available (NA). In response, the TNRCC is determining whether PCLs can be calculated by acquiring and evaluating chemical/physical and toxicological data for constituents. Any additional PCLs that are calculated will be sent to you be e-mail for inclusion in this assessment report.

UPRR Response:

The Revised On-Site APAR and Off-Site APAR will be prepared in accordance with the most-recent PCLs that are available (a minimum of 30 days prior to submittal).

TNRCC Comment 6:

Section 6.0, p. 26, last paragraph - Our review of the analytical data for the Former Process Area indicates that the constituent concentrations in surface soil are not homogenous. Therefore, institutional controls are necessary in order to use a soil exposure area greater than ½ acre when using statistical methods to determine representative concentrations for constituents at the affected property.

UPRR Response:

Based on TNRCC's comment, UPRR will concur with the TNRCC's evaluation of the data and the appropriate institutional control will be implemented as required by the TRRP Rule. UPRR will file a deed notice that indicates the assumed exposure area for a commercial/ industrial worker and explains that if future exposures are limited to smaller areas, the affected property will be reevaluated to facilitate protection of human health. UPRR will include draft language for the Institutional Control filing in the Revised On-Site APAR.

TNRCC Comment 7:

Figure 6-2 - The figure indicates that additional subsurface soil samples are needed to define the extent of the PCL Exceedance (PCLE) Zone in subsurface soils beneath the Former Process Area.

UPRR Response:

UPRR believes that the extent of the commercial/industrial PCLE Zone in the Former Process Area has been adequately delineated. The extent can be inferred when the subsurface soil PCLE Zone map (Figure 6-2) is reviewed in conjunction with the cross-sections developed for the Former Process Area and the analytical data from subsurface soil samples collected from the Former Process Area. As presented in Figures 4-2, 4-4 and 4-6 and Table D-2, the analytical results from soil samples collected at SB-3 (54 - 54.5 ft), SB-4 (58 - 60 ft), SB-24 (49 - 50 ft), MW-19C (55 - 57 ft), (60 - 62 ft) and (73 - 75 ft) and MW-23C (55 - 57 ft), (60 - 62 ft) and (73 - 75 ft) are either reported as *Not Detected* or at concentrations less than the commercial/industrial PCLs. In addition to the laboratory analytical results a review of the results from CPT-ROST borings and subsurface soil samples from the perimeter of the FPA (including CPT-18R, CPT-29R, CPT-08R, CPT-26R, CPT-07R, MW-16, CPT-15R, and CPT-16R) supports the inferred extent of the commercial/industrial PCLE Zone presented in Figure 6-2.

TNRCC Comment 8:

Sections 6.0 and 7.0 - Revise the sections to include cumulative evaluations as required by Section 350.72(b). Insure that the cumulative evaluations account for both the carcinogenic and noncarcinogenic characteristics of each constituent.

UPRR Response:

In accordance with this comment, Sections 6 and 7 will be revised as applicable, to include a cumulative risk evaluation for the constituents of concern in soil and ground water. This cumulative risk evaluation will assess whether PCLs for human health exposures require adjustments to meet the TRRP cumulative carcinogenic risk level not to exceed 1×10^{-4} and a hazard index not to exceed 10.

TNRCC Comment 9:

Section 7.0 - Revise the text and figures to define the source and extent of the Dense Non-Aqueous Phase Liquid (DNAPL) detections in monitoring wells MW-17 and MW-18C.

UPRR Response:

Monitor wells MW-17 and MW-18C are both in the Former Process Area of the site. It can be inferred that the source of the DNAPL observed in these wells may be associated with releases from one or more of the various tanks or process vessels that were present in this portion of the site when it was an active facility. At the time the APAR was submitted, the extent of DNAPL was inferred in some areas. However, additional investigative activities were completed in March 2001 that included the use of CPT-ROST technology to provide a qualitative assessment of the extent of NAPL-affected soil.

To assess the extent of DNAPL in the vicinity of MW-17, three CPT-ROST borings, CPT-26R-01, CPT-27R-01, and CPT-28R-01, were completed to the south, north, and east, respectively, in March 2001 (Figure 1). The ROST data from CPT-26R-01, CPT-27R-01, and CPT-28R-01 indicate that the measured fluorescence was at or approaching background levels at a depth of 65 feet below ground surface.

Two CPT-ROST borings were completed in the vicinity of MW-18C during March 2001. The ROST data from CPT-30R-01 and CPT-31R-01 (Figure 1) indicate that the measured fluorescence was at background levels at a depth of 65 feet below ground surface.

Based on the data collected in March 2001, the vertical extent of the DNAPL appears to be delineated in the vicinity of MW-17 and MW-18C.

TNRCC Comment 10:

Figure 7-1 - the figure indicates that additional on-site monitoring wells are needed to characterize and define the extent of the PCLE Zone in the A-Transmissive Zone Groundwater (A-TZ) associated with monitoring well MW-12A and the PCLE Zone located hydraulically up gradient of monitoring wells MW-15A and MW-20A.

UPRR Response:

To assist in the delineation of the PCLE zone in the A-TZ around monitor well MW-12A, additional data was collected in March 2001. Ground water samples were collected from CPT borings completed to the north, east, and south of MW-12A. Ground water samples were not collected from the west-northwest of MW-12A because the reported analytical data for A-TZ ground water grab samples collected from off-site soil borings SB-28 and SB-29 indicate that COCs were not detected at concentrations greater than laboratory LOQ (therefore, the PCLE Zone is defined in that direction).

Ground water grab samples were collected from CPT-16-01 HP A-TZ, CPT-18-01 HP A-TZ, CPT-22-01 HP A-TZ, and CPT-23-01 HP A-TZ (see Figure 1). The grab ground water results indicate that only a few COCS exceed the critical PCLs. Specifically, benzene and naphthalene at CPT-18-01 HP A-TZ and benzo(a)pyrene at CPT-22-01 HP A-TZ are reported at concentrations that exceed the critical PCLs. Based on these data and the data available from monitor wells MW-13 and MW-14 and the grab ground water sample from HP05UTZ the extent of the A-TZ ground water PCLE zone can be inferred within reason.

Additional ground water grab samples were also collected from the A-TZ at CPT-24-01 HP A-TZ and CPT-25-01 HP A-TZ (see Figure 1). These locations are hydraulically upgradient of MW-15A and MW-20A and were intended assist in the delineation of the PCLE Zone to the southwest. The analytical results for the ground water sample collected from CPT-24-01 HP A-TZ indicate critical PCL exceedances for only dibenzofuran and naphthalene. The ground water sample collected from CPT-25-01 HP A-TZ had no exceedances of the critical PCLs for the COCs analyzed. From these data and the laboratory analytical data from MW-14, the A-TZ ground water PCLE zone has been defined to west (hydraulically upgradient) of MW-15A and MW-20A.

TNRCC Comment 11:

Figure 7-2 - The figure indicates that additional on-site monitoring wells are needed to characterize and define the extent of the PCLE Zone in the B-TZ associated with monitoring well MW-12B.

UPRR Response:

To assist in the delineation of the PCLE zone in the B-TZ around monitor well MW-12B, additional data was collected in March 2001. Ground water samples were collected from CPT borings CPT-16-01 HP B-TZ, CPT-18-01 HP B-TZ, CPT-22-01 HP B-TZ, and CPT-23-01 HP B-TZ (see Figure 1). Several constituent concentrations exceed critical PCLs for the ground water grab samples collected within the B-TZ at locations CPT-16-01 HP B-TZ (dibenzofuran, naphthalene, benzo(a)pyrene, and benzo(a)anthracene) and CPT-18-01 HP B-TZ (benzo(a)pyrene, benzo(a)anthracene, chrysene, dibenzofuran, 2-methylnaphthalene, and naphthalene). However, the results from ground water samples collected from CPT-22-01 HP B-TZ and CPT-23-01 HP B-TZ indicated no critical PCL exceedances. Therefore, the extent of the PCLE Zone was defined by the results from CPT-22-01 and CPT-23-01 and piezometer P-11.

TNRCC Comment 12:

Section 8.0, p. 43 - Based on the time frames for providing the notices in Section 350.55, Union Pacific Railroad must complete the applicable on-site and off-site notice requirements now instead of waiting for the TNRCC guidance.

UPRR Response:

Pursuant to TNRCC's comment, UPRR is in the process of completing applicable on-site and off-site notifications. It is noticeable that in the interim, TNRCC has published a guidance document entitled *TRRP: Notification Requirements* (RG-366/TRRP 17). The Revised On-Site APAR will include certification of the property owners that were notified in accordance with 30 TAC 350.55.

TNRCC Comment 13:

Section 9.0, pp. 44-45 - Install and sample two new monitoring wells in the A-TZ. Locate one well immediately downgradient of soil borings SB-3, SB-7, and SB-8, and locate the other well immediately downgradient of soil boring SB-4.

UPRR Response:

In response to this comment additional ground water samples were collected from the areas cited. These areas are located in the interior of the site within the Former Process Area. Furthermore, these locations cited are within the previously established A-TZ ground water PCLE zone (Figure 7-1). Therefore, in lieu of installing permanent monitor wells, ground water grab samples were collected from CPT borings.

One ground water grab sample was collected from the A-TZ was collected down gradient of soil borings SB-3, SB-7, and SB-8 at CPT-29-01 HP A-TZ (see Figure 1). The analytical

results for this sample indicate critical PCLs were exceeded only for naphthalene, benzene, and 2,4-dimethylphenol.

A ground water grab sample was also collected down gradient of SB-4 at CPT-30-01 A-TZ (Figure 1). The results from this sample indicate critical PCL exceedances for only benzene, dibenzofuran, naphthalene, and 2,4-dimethylphenol.

TNRCC Comment 14:

Section 9.0, pp. 44-45 - Additional assessment is necessary to determine the source and define the extent of the DNAPL present in monitoring well MW-12B.

UPRR Response:

Further investigation activities were conducted to delineate the extent of the DNAPL in MW-12B. CPT-ROST data from CPT-17R-01, CPT-19R-01, CPT-20R-01, CPT-21R-01, and CPT-32R-01 was collected north, east and south of MW-12B to qualitatively assess the presence of NAPL in these locations (see Figure 1).

A preliminary review of the ROST data suggests elevated fluorescence levels at CPT-19R-01 at two distinct intervals, the first between 4 and 15 feet bgs, and the second between 22 and 30 feet bgs, both of these intervals are at shallower levels than the B-TZ at this location. The measured fluorescence was at nominal background levels from approximately 30 feet bgs to 62 feet bgs. The ROST data from the other four borings (CPT-17R-01, CPT-20R-01, CPT-21R-01, and CPT-32R-01) indicate measured fluorescence levels equivalent to background levels from approximately 3 feet bgs to 62 feet bgs. An interpretation of these results indicates that the presence of NAPL around MW-12B is localized to the immediate vicinity around the monitor well.

TNRCC Comment 15

Appendix B, Part II, Subpart A.1 - Revise the explanation to further demonstrate that the affected ditches are: a) not in contact with other surface waters which are ultimately in contact with surface waters of the State; and b) not consistently or routinely utilized as a valuable habitat for natural communities including birds, mammals, reptiles, etc.

UPRR Response:

As indicated in Section 3.1 of the APAR, four investigation areas were identified for the UPRR property (i.e., Areas 1 through 4). Areas 2, 3, and 4 were identified as the likely on-site source and exposure areas. Area 1, which includes SWMU 2 (northern and southern drainage ditches) and AOC 6, is considered to be located off-site and was not assessed in the On-Site APAR. Since the drainage ditches (i.e., SWMU 2) were identified as sources area for off-site areas and will be addressed in a separate APAR, the Tier 1 Ecological Checklist

provided in Appendix B of the on-site APAR did not consider an evaluation of SWMU 2 (the drainage ditches).

In order to clarify that the UPRR on-site property meets the Tier 1 Exclusion Criteria, UPRR will revise Appendix B, Part II, Subpart A.1 (Relating to the Tier 1 Exclusion Criteria Checklist) to indicate that the drainage ditches (SWMU 2) may have been affected by COPCs migrating from the UPRR on-site property, but that these ditches are not in contact with waters of the State and are not consistently or routinely utilized as a valuable habitat for natural communities including birds, mammals, reptiles, etc.

TNRCC Comment 16

Appendix E - Revise the appendix to provide the results of data quality assurance review for the Phase 2B data.

UPRR Response:

Several issues were identified with the RFI Phase 2-B data during validation. The analytical laboratory is currently preparing revised laboratory analytical reports to address these issues. Once the revised analytical reports are prepared and issued, the data validation process will be completed. The results of the data validation should be included with the Revised On-Site APAR.

TNRCC Comment 17:

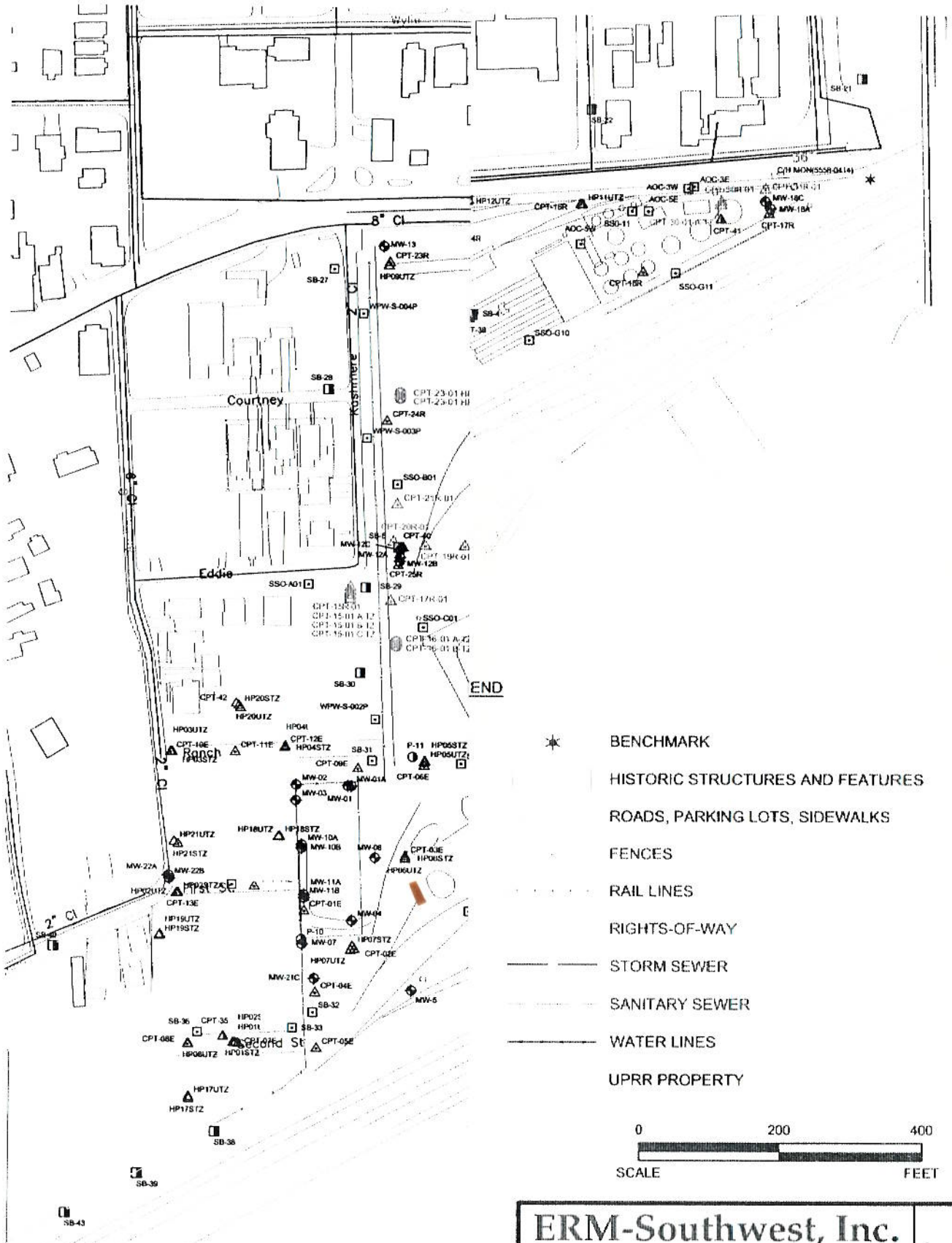
Appendix F, Tables F-1 and F-2 - If pentachlorophenol was used at the site it should be retained as a constituent of potential concern.

UPRR Response:

Prior to preparation of the On-Site APAR, the available historical information for the site was reviewed and did not suggest that pentachlorophenol (PCP) was used at the site in the wood preserving process. Furthermore, the historical ground water analytical data for the site was reviewed. The ground water samples collected prior to preparation of the APAR were analyzed for semivolatile organic constituents by SW-846 Method 8270 in accordance with industry standards. The results of these analyses indicated that PCP was *Not Detected* at concentrations greater than the laboratory limit of quantitation. These analyses were completed prior to promulgation of the TRRP or the Consistency Memorandum, however. Therefore, high sensitivity analytical methods were not employed to attain very low quantitation limits.

To address the issue of whether PCP should be retained as a COPC at the site, UPRR has assessed PCP in ground water samples collected during recent sampling events for PCP using Method 8270, semivolatile organics -SIM analysis. The results indicate that approximately

85% of the reported PCP concentrations are less than PCPS residential ground water PCL (i.e., 0.001 mg/L). Several (approximately 60%) of the concentrations were reported as J-flagged (an estimated concentration between the method detection limit and the laboratory quantitation limit). Twelve CPT ground water samples and one monitor well (MW-18C) reported concentrations of PCP greater than MCL (0.001 mg/L). The CPT samples were just slightly above PCPS MCL, ranging from 0.002 to 0.003 mg/L in these samples. The maximum PCP concentration of 0.009 mg/L was reported at MW-18C. PCP was reported as detected in the four blanks analyzed (three field blanks and one equipment blank). The PCP concentrations in blanks range from 0.00009 to 0.0005 mg/L. The maximum reported PCP concentration for samples is greater than five times the concentration reported in the blanks. These finding taken together suggest that PCP require further evaluation at the property and should be included as a COPC in the Revised On-Site APAR.



ERM-Southwest, Inc.

HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE

FIGURE 1
SITE MAP
HOUSTON WOOD PRESERVING WORKS
Houston, Harris County, Texas

DESIGN: RM	CHKD.:	DATE: 07/06/01	REV.:
DRAWN: JAA	SCALE: AS SHOWN	W.O NO.: 422009B107 G01	

ERM